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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,248	10/13/2004	William K. S. Cleveland	3238-01	8874

7590 01/28/2008  
Lubrizol Corporation  
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EXAMINER
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VASISTH, VISHAL V

ART UNIT	PAPER NUMBER
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4151

MAIL DATE	DELIVERY MODE
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01/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/511,248	<b>Applicant(s)</b> CLEVELAND ET AL.	
	<b>Examiner</b> VISHAL VASISTH	<b>Art Unit</b> 4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/18/2005</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-14 and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Blythe International Publication No. WO 93/03120 (hereinafter referred to as WO '120).

Regarding claim 1, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising 40% 100 neutral mineral oil (an oil of lubricating viscosity) (P. 36/L. 17-18), the product of a isostearic acid and tetraethylenepentamine (a reaction product of a fatty hydrocarbyl-substituted monocarboxylic acid acylating agent with a polyamine wherein the reaction product comprises a heterocyclic reaction product) (P. 40/Example B-2), a Mannich dispersant which is the reaction product of polybutene-substituted phenol, formaldehyde and an aqueous dimethylamine solution (Mannich dispersant is the reaction product of a hydrocarbyl-substituted phenol, an aldehyde, and an amine) (P. 36 - 37/Example A-12 - A-14) and a Stoddard solvent having a kinematic viscosity of .74-1.65 (cSt) at 100°C (a normally liquid solvent having a viscosity of less than 5 (cSt) at 100°C) (P. 53/L. 28). With regard to the limitation of the preamble reciting a power valve, it is noted here that the claimed invention calls for the process claims, wherein the steps of the process are met by the applied prior art, and the structural limitations of apparatus recited in the preamble do not present manipulative difference between the claimed process steps and the prior

art process. Therefore, the recitation a power valve as a structural limitation of apparatus for performing such steps does not serve to limit the claim. See, e.g., *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 2, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising tetraethylenepentamine (nitrogen-containing compound is a polyamine which when reacted with fatty hydrocarbyl-substituted monocarboxylic acid acylating agent creates a heterocyclic reaction product) (P. 40/Example B-2).

Regarding claim 3, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising tetraethylenepentamine (nitrogen-containing compound is a polyamine) (P. 40/Example B-2).

Regarding claim 4, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising from about 2 to about 15% by weight of the product of a isostearic acid and tetraethylenepentamine (at least 1.2% by weight of at least one heterocyclic reaction product of a fatty hydrocarbyl monocarboxylic acid acylating agent with an amine or ammonia) (P. 40/Example B-2 and P.50/L. 27-30) and from about 0.5 to about 30% by weight of a Mannich dispersant which makes the total weight percentage of the two components at least 2.5% ( $2\% + 0.5\% = 2.5\%$ ) (total weight of the two components is at least 3.5% by weight) (P. 28/L. 15 and P. 50/L. 20-26 and P. 54/Table 1).

Regarding claim 5, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising 100 neutral mineral oil (a natural oil) (P. 36/L. 17-18).

Regarding claim 6, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising 40% 100 neutral mineral oil (an oil of lubricating viscosity is present at 30 to 95% by weight) (P. 36/L. 17-18).

Regarding claim 7, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising isostearic acid and tetraethylenepentamine (monocarboxylic acylating agent is a C<sub>4</sub> to C<sub>22</sub> fatty carboxylic acid and the polyamine is a polyethylenepolyamine) (P. 38/L. 4-8 and P. 40/Example B-2).

Regarding claim 8, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising isostearic acid and tetraethylenepentamine (fatty carboxylic acid is isostearic acid and the polyamine is a polyethylenepolyamine) (P. 38/L. 4-8 and P. 40/Example B-2).

Regarding claim 9, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising a Mannich dispersant which is the reaction product of polybutene-substituted phenol (hydrocarbyl substituent of the aminophenol is derived from polyisobutylene) (P. 36 - 37/Example A-12 - A-14).

Regarding claim 10, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising a Mannich dispersant which is the reaction product of polybutene-substituted phenol, formaldehyde and an aqueous dimethylamine solution (Mannich dispersant is the reaction product of polyisobutylene, formaldehyde and a an amine) (P. 36 - 37/Example A-12 - A-14).

Regarding claim 11, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising polybutenyl succinic anhydride

(hydrocarbyl-substituted polycarboxylic acylating agent is a polyisobutenylsuccinic anhydride) (P.36/Example A-13).

Regarding claim 12, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising ester oils (solvent is an oxygen-containing composition) (P. 53/L. 15-27).

Regarding claim 13, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising an alkyl amino phenol dispersant (additional additives) (P. 6/L. 5-17 and P. 50/L. 20-26).

Regarding claim 14, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising an oxidation-inhibiting agent (an antioxidant) (P. 51/L. 12-13).

Regarding claim 16, WO '120 discloses a lubricant composition for two-cycle engines comprising 100 neutral mineral oil (oil of lubricating viscosity) (P. 36/L. 17-18), the product of a isostearic acid and tetraethylenepentamine (a reaction product of a fatty hydrocarbyl-substituted monocarboxylic acid acylating agent with a polyamine wherein the reaction product comprises a heterocyclic reaction product) (P. 40/Example B-2), a hydrocarbyl-substituted aminophenol (a hydrocarbyl-substituted aminophenol) (P. 8/L. 26-29), a Stoddard solvent having a kinematic viscosity of .74-1.65 (cSt) at 100°C (a normally liquid solvent having a viscosity of less than 5 (cSt) at 100°C) (P. 53/L. 28) wherein the amount of the reaction product of a fatty hydrocarbyl-substituted monocarboxylic acid acylating agent with a polyamine wherein the reaction product comprises a heterocyclic reaction product is 2 to 15% by weight (wherein the amount of a reaction product of a fatty hydrocarbyl-substituted monocarboxylic acid acylating agent with a

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polyamine wherein the reaction product comprises a heterocyclic reaction product is greater than 3.4%) and the hydrocarbyl-substituted aminophenol dispersant is 5 to 30% by weight and which makes the total weight percentage of the two components at least 7.0% ( $2\% + 5\% = 7\%$ ) (a reaction product of a fatty hydrocarbyl-substituted monocarboxylic acid acylating agent with a polyamine wherein the reaction product comprises a heterocyclic reaction product and the hydrocarbyl-substituted aminophenol combined is greater than 9.6% by weight) (P. 28/L. 15 and P. 50/L. 20-26 and P. 54/Table 1).

Regarding claim 17, WO '120 discloses a lubricant composition for two-cycle engines comprising isostearic acid and tetraethylenepentamine (monocarboxylic acylating agent is a  $C_4$  to  $C_{22}$  fatty carboxylic acid and the polyamine) (P. 38/L. 4-8 and P. 40/Example B-2).

Regarding claim 18, WO '120 discloses a lubricant composition for two-cycle engines comprising an alkyl amino phenol dispersant (additional additives) (P. 6/L. 5-17 and P. 50/L. 20-26).

Regarding claim 19, WO '120 discloses a lubricant composition for two-cycle engines comprising a major portion of a normally liquid fuel such as hydrocarbonaceous petroleum distillate fuel (a liquid fuel) (P. 53/L. 32-35) and a lubricating amount of the composition described in claim 16 (lubricating amount of the composition of claim 16) (P. 49-50/L. 33-19).

Regarding claim 20, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture (P. 2-3/L. 25-4) such as the one in claim 16 (supplying to the engine the lubricant composition of claim 16) (P. 49-50/L. 33-19).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blythe International Publication No. WO 93/03120 (hereinafter referred to as WO '120).

Regarding claim 15, WO '120 discloses a method of introducing into a two-cycle internal combustion engine a fuel-lubricant mixture comprising a major portion of a normally liquid fuel such as hydrocarbonaceous petroleum distillate fuel, but the reference does not disclose a specific fuel to lubricant composition ratio (the lubricant composition is mixed with a liquid fuel, the mixture of the lubricant composition and the fuel is supplied to the engine, and the weight ratio of the fuel to the lubricant composition in the mixture is 10-250:1) (P. 53/L. 32-35). WO '120 discloses the claimed invention except for the fuel to lubricant composition ratio. The criticality of the claimed ratio is not shown on the record. The fuel ratio range affects the amount of deposits in the piston valve. It would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the fuel and lubricant composition, since it has been held



that discovering an optimum value of a result effective variable involves only routine skill in the art in absence of unexpected results. *In re Boesch and Slaney* (205 USPQ 215 (CCPA 1980)).

### **Conclusion**

In the International search report there were several references that are pertinent to the applicant's disclosure but they were not used in the rejection because the WO '120 reference was sufficient for a 102(b)/103 rejection.

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure: Ilmain et al., US Patent No. 6,391,833 and Chamberlin et al., US Patent No. 6,242,394.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VISHAL VASISTH whose telephone number is (571)270-3716. The examiner can normally be reached on M-F 8:30a-5:30p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mikhail Kornakov can be reached on (571)272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VVV

/Michael Kornakov/

Supervisory Patent Examiner, Art Unit 4151